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OBSERVATIONS ON LOCAL ANESTHESIA

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IN LOCAL, regional or infiltration anesthesia, effects are produced (1) by the local ischemia, (2) by the pressure to which the tissues are subjected by the solution, (3) by lowered temperature from the cool injection, and (4) by direct action of the drug.[1] Inasmuch as the injection of plain distilled water is capable of producing some anesthetic effect, the importance of the first three factors should not be lost sight of in an attempt to evaluate the anesthetic properties of drugs.

Writers upon the subject of local anesthesia differ radically in their views on the effectiveness, safety and toxicity of various drugs, so we cannot but conclude that adequate testing methods in this field are lacking, and that conclusions are usually based upon opinions and inconstant observations. For example, a lady of my acquaintance, 62 years of age, dropped dead the other day in an oculist's chair while having her eyes tested. No medication had been used in her case. But, had she dropped dead in a dentist's chair, there is little doubt but that her death would have been ascribed to the toxicity of an anesthetic agent, and she would have been counted as one who had an idiosyncrasy to that particular drug.

Bearing upon the radical differences of opinion on the effectiveness, safety and toxicity of anesthetic agents, let us consider quinine and urea hydrochloride. Gross and Burnett[2] say that it "is non-toxic when injected and may be used in large quantities, usually in a 2% solution, without harmful effects," DaCosta[3] says, "in ¼ to 1 per cent solution" it "causes prolonged local anesthesia. A solution of 1 per cent is too strong—it causes the wound to heal slowly and produces induration. The drug has no toxic effect and can be used in considerable quantity; it lessens bleeding, and, by producing an effect for many hours, lessens post-operative pain," while a comprehensive review[4] of practically all types of local anesthetics, 21 of them in all, comments, "Quinine urea hydrochloride, USP, a protoplasmic poison; anesthetic potency doubtful, may be absent: highly irritant; causing necrosis of nerve fibers on injection,

also tissue edema." Those of us in the podiatry profession who have used quinine and urea hydrochloride over a period of years in selected cases, as well as the many protologists who employ it routinely, cannot help but feel that this latter opinion of the drug is rather harsh. And yet it is not uncommon to find writers on the subject of local anesthetics nearly, though not quite, as sharply divided as the authors just quoted.

Thus, Hertzler[5] states that no drug yet discovered meets all requirements in efficiency and safety, but he feels that novocaine is efficient and satisfactory when injected, but for special purposes "it has its limitations and our armamentarium can with advantage be supplemented by other drugs. For this purpose cocaine is the most efficient drug and when used with care is reasonably safe." Various other authors state that cocaine remains the most active local anesthetic we possess. Ordinarily, however, it is advisable not to exceed 3 cc.'s of a 1% solution of cocaine, and a barbiturate should be administered prior to its use, since barbital is an antidote to possible cocaine poisoning.[6] Then, apparently contrariwise to Hertzler's statement that "cocaine is the most efficient drug," we quote[4] "Nupercaine hydrochloride, NNR, strongest of all introduced anesthetics, having 10 to 50 times the potency of cocaine. It is extremely poisonous, irritant in concentrations over 1:5,000, and vasodilating. Should not be used in concentrations over 1:1,000; 135 cc. of 1:1,000 have proved fatal. Anesthetic action lasts about 12 hours."

As 135 cc.'s equal about 4½ ounces, there is little likelihood that the podiatrist, using anesthetics in quantities of 2, 5, 10 or 20 cc's, would use the fatal dose, if such it is, of 4½ ounces. Deaths have been ascribed, rightly or otherwise, to the use of much less than that quantity of cocaine and procaine. Ingram,[6] in a review of 3,320 local anesthesias, using five types of drugs, including cocaine and procaine, reports a death occurring within two minutes of the injection of 30 cc's (about one ounce) of 1% procaine, but he points out that there was no pathological verification of the cause of death because autopsy was refused, and he concludes, "This was our only, and unconfirmed, local anesthetic death." A solution containing 1:2,000 nupercaine was used in 955 of the anesthesias reported by Ingram without untoward results, and his enthusiasm for this solution is quite evident.

We could thus search through the literature and quote authors at considerable length bearing upon the effectiveness, safety and toxicity of the many drugs used in local anesthesia, but instead of proving any point, we would only confirm our convictions that these attributes are dependent largely upon two individuals in each given case, (1) the person administering the anesthetic, and (2) the person receiving it.

As for the former, the podiatrist in this instance, it is well known, for example, that there are two widely separated groups in their reactions to the use of nupercaine. One group feels that it is an excellently effective, long-lasting, reasonably safe anesthetic for which there are many indications in podiatry, while the other group complains (surely because of faulty technic) that they didn't get an anesthesia with it and so switched to procaine in a given case, whereupon they have not tried it again.

Then, as for the latter, the patient; he is a very variable factor. If he faints during administration of the anesthetic, we say that he has an idiosyncrasy to the drug, but if his parent or wife, standing by watching

the procedure, does the fainting, we count it as shock, or a "weak" heart or stomach. No doubt all anesthetics are toxic, and any one of them is likely to prove very toxic to occasional individuals. We have patients who can't tolerate adhesive plaster upon their skin, some are allergic to quinine, others have to give aspirin a wide berth, and so it is logical that every one of the local anesthetics will find an individual somewhere who has an idiosyncrasy to it. Fortunately such individuals are rarer than are those who suffer no untoward effects from any anesthetic we might employ. We know an old-time podiatrist who can't use procaine on patients because the mere handling of it will give her a severe dermatitis. In her earlier days she employed cocaine without any such reaction and to the satisfaction of herself and her patients. When she became unable to obtain cocaine through moving to a state that did not allow narcotic privileges to podiatrists until years later, she began to use alypin, which she employed for some thirty years as a local anesthetic, in spite of the fact that I have another article before me as I write in which the anesthetic virtue of alypin is cast in doubt.

While we have had little to say about procaine, it is because this drug is the most familiar of the local anesthetics to our profession, and, justifiably we believe, it will continue to be used in large amounts by podiatrists, albeit there is a need of a selective group of anesthetic agents to best serve the varying demands of our cases.

We are inclined to the view that untoward symptoms becoming manifest when using local anesthetics, are often due, not so much to the toxicity of the drug, as to "surgical shock." Dr. Harold Young[7] says, "Some patients who have never been to a podiatrist are oftentimes so frightened that it is almost impossible to treat them. * * * No amount of verbal reassurance is sufficient to make the patient's foot stop shaking long enough to treat him." Dr. Young is reporting an observation we are all quite familiar with. And it is not always at just the first visit of the patient. If a need for some minor surgery develops in an old patient of ours, this reaction may be as pronounced as it is in some new patients. Such a patient is a potential surgical shock case. Surgical shock can be dangerous and even fatal. So it behooves us to use any measure at our command to overcome the nervous tension and strain, the fear and anxiety, that may lead to shock. Dr. Ingram[6] and others advise the pre-operative administration of barbiturates. Many others administer morphine pre-operatively. Lately there has appeared on the market a synthetic product known as Demerol (Winthrop), which is said to have an action about midway between that of morphine and codeine. Demerol is a great help in getting a patient ready for the administration of local anesthetics. It acts within a few minutes, and the operator can literally see the tense, nervous, high-strung patient become calm and composed. Yet he does not have a groggy, "doped" feeling. He converses evenly and without slurring his words. He does not feel badly the next day, as is so often the case where opiates have been administered. Demerol is not constipating, as is morphine. In fact about the only sensations the average patient reports are that he has a feeling of well being and good health with a little dryness of the mouth. Since the effect of Demerol persists for up to six hours, "waking up" pain of the anesthetic is often absent, since Demerol is an analgesic which relieves pain from any cause.

Lately I have found it advantageous to inject the Demerol into the operative field itself. If one is operating a nail, Demerol can be injected much as if it were a local anesthetic, and after a short wait, a small amount of local anesthetic, say half or less of the amount one ordinarily uses, can be injected. Demerol comes in a 2 cc. ampul, with 100 milligrams of Demerol in the solution, or about 1½ grains, which seems to equal about ⅛ grain of morphine in analgesic effect.

Going back to our first paragraph, I feel that Demerol exerts a local anesthetic effect when injected into the operative field because of the first three factors there enumerated. Then, following surgery, Demerol is a splendid analgesic to keep down post-operative pain, although it can then be injected in a leg, arm or back, intramuscularly, as one might administer any "hypodermic."

I believe the conclusion is warranted that, ordinarily, toxicity of a local anesthetic is variable; that one patient will tolerate one agent better than another, and vice versa; and that many of the "anesthetic accidents" are not due to toxicity of the drug employed, but rather to nervous stress and tension which result in surgical shock. To avoid dangerous and even fatal shock such agents as the barbiturates, opiates and Demerol are desirable pre-operative medication. Then, of course, "smelling salts," aromatic spirits of ammonia, amyl nitrite and caffeine citrate should be on hand if an "accident" occurs, while the operator should also be equal to administering artificial respiration. Observations on the effectiveness, safety and toxicity of anesthetic drugs are so conflicting that they are apparently not supported by scientific testing methods, but reflect, instead, individual opinions often gained from isolated, atypical, inconstant reactions.

(Note: A narcotic permit is required to obtain Demerol.)

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Addenda

The reader may be interested in the methods used in an attempt to determine the toxicity of, in this case, an anesthetic drug. A number of animals (white mice, for example) are selected, and very slightly varying amounts of the drug are administered to each animal. The minimal dose which kills the animal is thus determined. From the researches of Hatum, Atkinson, Collins, Hooper, Becker and others, we thus determine that cocaine is 6 to 7 times more toxic than procaine, and that nupercaine is 23 times more toxic than cocaine. WHEN INJECTED SUBCUTANEOUSLY INTO MICE. But when guinea pigs were used as the test animals, just half the amount of cocaine per gram of body weight proved toxic as was the case when mice were used, with the anesthetic injected subcutaneously. BUT, when injected intravenously,

guinea pigs tolerated almost as large a dose as mice (0.02 to 0.03 milligram of the drug per gram of body weight respectively.) Guinea pigs tolerated two and a half times as much cocaine subcutaneously as they did intravenously, while they tolerated eleven times as much procaine subcutaneously as they did intravenously. In cats the toxic dose of cocaine was only three times that of procaine, while nupercaine was just from twice to four times as toxic to cats as cocaine (compared with 23 times more toxic in mice). In dogs nupercaine was just slightly more toxic than was cocaine (20 milligrams per kilogram, and 27 milligrams per kilogram (about 2.2 lbs.). of body weight respectively.) Thus it appears that the higher up in animal life one goes, the less the relative toxicity, and when we say that procaine is one-seventh as toxic as is cocaine, we mean that is as it has been determined in mice. If we were making a comparison on the basis of experimentation with cats, we would say that procaine is one-third as toxic as cocaine. On the basis of animal experimentation, the toxic dose, if such there is, of quinine and urea hydrochloride could not be determined, because so much had to be injected that the animal was practically drowned in the fluid within it. Therefore, the relative toxic doses in man are only open to conjecture.

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AN INTRODUCTION TO AN ADVANCED PHYSIOLOGICAL CONCEPT IN ORTHOPODICS

Part Three

By LEWIS F. SCHREIBER, M.Cp.
HARRY W. WEINERMAN, M.Cp.
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[*NOTE—In Part One of the introductory treatise on this study and research, I stated that in the endeavor to extend this advanced concept into the formulation of a physiological law, I had secured the valuable collaboration of a colleague, Dr. Harry W. Weinerman, in order to greatly facilitate the work to be undertaken. Part Three therefore represents the joint efforts of both investigators, resulting from individual research brought to a focus over consultations held at various times to sift the accumulated findings and organize the results for publication.—L. F. S.*]

Lower Extremities a Basic Pattern

THE POINT TO be noted regarding the evolutionary development of the human foot is that it is based on an ancient biological architectural plan. It has been shown very convincingly by Wood Jones that mankind has no direct four-footed ancestry. The primitive limb type consists of three segments: the thigh, the leg, and the foot with five digits. This basic pattern gives us the present structural make-up of both the upper and lower extremities of man.

Functional Variations in Foot Types

There are racial and tribal variations in postural and structural stability of the feet, with wide variations coming within the normal for each type, according to Lake and other investigators. In addition, various foot types exist in which extreme degrees of either spasticity or flaccidity of soft tissues and joints are to be considered normal for the type. There are so many possible variations which may be considered normal that no hard or fast rule can be laid down for guidance, except that each type has its own characteristics of structure passing for normal. The only abnormality that can exist clinically is some functional disorder of the foot mechanism, in which case structure plays only a minor role. A slight abnormal functional change, while having no immediate perceptible effect on structure, can be made the basis for a train of symptoms. A slight change back to normal function will clear up the disturbance with no immediate perceptible effect on structure. As function continues either normal or abnormal, structure will eventually change to the extent that function permits. For example, an athlete pivots his foot with great pressure on the heads of metatarsals I and II over a period of years. In time the heads and shafts hypertrophy. Nature adapted this part to its unusual burden of weight-bearing function and has given it greater strength to carry on. Because of the slow nature of the abuse, the foot will become adapted to this sort of function without pain, as a rule. But were this excessive burden thrown upon the foot too suddenly and without time for function to adapt itself, the strain would be too much and pain in the part would ensue. Likewise, occupational function, in which some other part of the body acquires an unusual degree of functional skill and facility to perform its task efficiently and painlessly, gives it the capacity in time to function normally.

All of this goes to show the physiological adaptability of the body to condition itself to countless functions which it may be called upon to perform. The point to be borne in mind in all specialized training of this sort is the element of time. The longer the time in which to learn to perform a new function, the better the ability of the body or of any of its parts to adapt itself. Conversely, the longer the body or any of its parts has functioned in an abnormal manner, the longer the time required to re-educate it to normal function.

This leads us very close to the physiological concept we are to deal with in this study. For, if function is normal, subjective symptomatology relating to the parts is absent. But, were some slight abnormal functional change to throw the part out of balance,—pain, disability, fatigue and other subjective symptoms would result. Of course, this aspect of the subject considers local physiological and mechanical factors exclusively, and bars all constitutional factors as outside the scope of this study.

It should be emphasized at this point that the writers do not discount postural factors involving the lower extremities in pathomechanical disorders as of no consequence, but merely that such factors may have been the cause of the shifting of the center of gravity of the foot and leg to a point not directly in balanced relationship to each other or to themselves separately. When the center of gravity is restored by proper measures, normal function is restored, pain, disability and fatigue cease, and structure apparently remains unchanged to the naked eye. By finding the center of gravity of the foot in any given case, the secret of normal function and serviceability is discovered.

Brought down to its simplest terms, this method is one that is ordinarily used in any practitioner's office in the relief of symptoms. But the method can be carried far beyond the stage of relief of painful symptoms. It can be carried to the point where balance is maintained long enough to restore the strained parts to normal function. In time even the structures will change and take on a more "normal" appearance, even though the degree of pronation remains basically unchanged.

The center of gravity of the foot in its varied functional capacities provides the possibility for astute study and the application of the laws of dynamics. The approach to the solution in each case is manifold, depending upon the rationale of treatment applying to the individual case. Any method that fits the case will produce desirable results. That is for the practitioner to determine. But the principles underlying certain facts about the evolutionary structure and function of the human foot always apply according to the laws of physiology and dynamics.

Function, Structure and Pronation

This study now concerns itself with a discussion of physiology involving function and structure. Pronation is an aspect of the subject since it deals with structure. In the evolutionary development of the human foot,—the *pes cavus* type excepted—pronation became a common change under weight-bearing. For that reason, and not for any pathomechanical defect, pronation is almost universal, even among infants beginning to walk, and where no calcium deficiency exists. *Pes cavus* and other abnormal structures of the arch are generally the result of some form of mild paralysis, too mild to be noticeable, thereby resulting in a type of foot that does not readily yield to an attitude of pronation when bearing weight. It is understood that pronation becomes less marked when a

flat-heeled shoe is worn than when barefooted, and that it gradually disappears as the heel approaches the heights commonly worn by women. This diminution in pronation is in proportion to the degree of weight thrust upon the ball of the foot as the heel is elevated.

The relation of barefoot pronation, of whatever degree, to subjective symptomatology is insignificant and at best of no more than secondary importance. Pronation in the upright barefoot position is insignificant because it is far from assuming the same degree of pronation when the feet rest in shoes with heels.

It becomes about as superhuman an undertaking to correct, or even to modify, pronation of any degree as it would become to change the basic morphology of the foot to suit some fancied theory not borne out by the facts of evolution. The existence of pronation must be accepted as fact, about which nothing can be done directly on our part in the course of a lifetime. What must be faced squarely is the role played by function, which in turn creates or influences structure. The human foot has functioned in its present state of structure for untold millennia. Our theories must fit the facts, not the facts the theories.

Pathomechanical disorders of the feet and lower extremities result from excessive strain and imbalance having nothing whatever to do with the pronated attitude of the foot. Pronation is singled out as the causative factor with about as much scientific proof as if it were to be asserted that people with rounded skulls are prone to migraine. As was pointed out previously in this series, function is always primary while structure is secondary. We are not, therefore, interested in changing structure but in changing function.

Structural Stability

If an amputated specimen of the foot be examined closely, and the relationship of the soft tissue structures covering the bottom are compared to the bony structure, it will be observed that the soft structures are exceedingly bulky between the heel and the shafts of the metatarsus. The dome-like concavity observed in the bony structure, minus the soft tissues, is greater than that of the covered foot. It is this mass of soft tissue that is responsible for the greater part of the apparent flattening of the longitudinal arch under weight-bearing.

Morton points out that the structural stability of the human foot was embodied in certain physical properties acquired through evolutionary changes that raised the arch to its present conformation. This resulted in balanced foot posture as the heel and metatarsal segments were lifted in forming the buttressing pillars of support.

Structural stability in the naturally rigidly arched contour is maintained even under complete anesthesia. That the rigid arch is not dependent upon muscles is evident in the resistance to flattening when force is applied. It is well known that the element of height of the arch enters the ratio of security in that highly arched feet are generally more susceptible to unbalanced foot posture than feet with naturally low arches. As the degree of pronation is far less pronounced in the highly arched foot than in the low, it becomes clear that pronation is not an element to reckon with when mechanical disorders afflict the high-arched foot. How, then, can pronation be acquired or, if congenital, aggravated if the dome of the arch is incapable of flattening even under anesthesia or by the application of force?

Postural Stability

Complementary to structural stability, postural stability deals with the subtaler joint itself, in contradistinction to the structures below it. Postural stability provides foot balance whereby the leg is held functionally vertical above the subtaler joint, controlled by the leg muscles. Both structural and postural stability are elements of foot balance, yet they should not be separated from each other. Postural stability is brought into active muscular exertion only when structural stability is moved to a narrow margin of balance. Morton illustrates this when he states—

> this might best be demonstrated by the simple experiment of putting on a pair of ice skates, attached to oxford shoes which do not extend above the ankle joints. The slender runner of the skates eliminates the width of the feet as a source of lateral security so that the element of *structural stability* will be missing. Under these conditions postural stability alone, comprising the muscular control of the subtaler joint, will be effective. The increased demands upon the muscles will be so tiring while the skates are worn, that anyone who tries the experiment will not be long in recognizing the advantage customarily afforded by the missing element.

Morphology and Foot Posture

As pointed out by Morton, disorders of the longitudinal arch are usually designated by the associated degree of postural fault: i.e., first, second, or third degree of pronation. These degrees refer to departures from accepted normal foot contours, and this morphological basis is the one commonly employed in clinical practice for diagnosis.

While pronation of any degree is considered by most authorities as a structural fault in foot posture, nevertheless treatment directed toward overcoming it is not successful. The fact remains that from the morphological standpoint the degree of pronation remains unchanged, judging from gross external appearances. But what most likely takes place in the disordered structure, in the process of correction, is a very slight change or shift in the weight and center of gravity so that the foot as a whole functions in the attitude best suited to the individual's comfort when the relationship of normal stresses and strains between muscles and bony structure is improved. It is also a fact that whether pronated or not, treatment given to all types of feet does not materially alter their morphology. What does take place is a slight change in function to provide better foot balance, thereby eliminating distressing symptoms. Pronation may furnish some external evidence of medial displacement of the weight center, but it can not be accurately measured. Occupational factors or shoes that have the tendency to throw the center of gravity toward the medial side of the feet will create a disproportion in normal strains and stresses and lead to functional disability. The weight displacement, however, is never in proportion to the degree of pronation, and that is where the fallacy of acquired degrees of pronation leading to foot disabilities comes in. If the displacement—not the pronation—tips a fraction of a pound in the wrong direction, we say we have a type of "weakfoot" before us, and then the erroneous conclusion is drawn that pronation is responsible for the condition.

While pronation has been assigned in all standard orthopedic textbooks an important role in the etiology of "weakfoot," not one attempt

has ever been recorded to prove it is acquired, nor to disprove it is hereditary. Pronation is not a symptom in itself, nor is it objective evidence of so-called weakfoot; *it is hereditary as an attitude of stance.*

The foot in stance and locomotion changes its center of gravity or weight to compensate for any movement of the body. For instance, bending at the waist causes a compensatory shift in the pelvic muscles to retain the altered center of weight in the feet. In addition, muscular changes in tension take place in the feet and legs to compensate for this position of the body. By the mechanism of muscular compensation the center of weight is retained over the ground area of contact. Even the slightest movement of the body, in stance or locomotion, causes a change in the center of weight passing through the legs and feet.

Any attempt to actually correct, by the process of morphogenesis, the posture of a pronated adult foot would impose severe hardship and suffering, reminiscent of ancient Chinese foot-binding. In fact, such an attempt would produce a new and painful disability on a par with forcing up the arch in a case of congenital flatfoot, considered poor therapy under any circumstances. To attempt to change the morphology of any portion of the human anatomy is recognized as unnatural and harmful: ergo, the same principle applies to the foot.

The Infant's Normal Foot

It is generally accepted practise that the plasticity of the foot of the infant just beginning to walk requires a soft shoe to correspond to the immature softness of the structures. In line with this practise, any attempt to correct by harsh mechanical measures the normally flattened or pronated position of the infant foot, on the theory that the earlier in life it is begun the easier the accomplishment, will likewise create, to a less degree, the hardship and the new disability experienced in the case of the adult foot. It has been our observation over a period of many years that when the feet of young children are overcorrected, even for a short time, the effects create an unnatural gait, adding clumsiness to an artificially created imbalance, in addition to distorting the shoe uppers and wearing thin the soles on the lateral margins. *The perfect alignment of the bony structure of the infant foot will not preclude in later life the occurrence of functional disabilities common to the average adult foot.* The old concept that structure is primarily in foot correction has been the bane of orthopedic practice for more than two generations. The fact remains that *normal function*, not *structure*, is the scientific and infallible guide to the care of the infant foot.

Wolff's Law and Foot Structure

Referring to Wolff's law in connection with foot structure, a number of bones or even a single bone may not always be involved in bone transformation, but at times only a portion of a bone may be affected in the process. Thus, in *hallux valgus*, the osteoblasts and trabeculae may change their lines of force at one point only in order to accommodate the strains and stresses of altered forces concentrated upon a small area. In the course of time these forces set up an exostosis or an enlargement of the first metatarso-phalangeal joint. The same law applies to a localized area of bone in the case of a painful heel spur induced by pathomechanical causes.

There is no evidence of the operation of Wolff's law of bone pathogen-

esis in cases of pronation. If pronation is to be regarded as pathomechanical, the lines of force within the affected bones would be entirely changed, but no evidence has been adduced to uphold such a theory, for even the gross appearance of the involved bones would necessarily have to indicate the degree of pronation by their internal and external transformation in shape and size, in accordance with the principles of Wolff's law.

That is why no perceptible change in subtaler posture is observed after an attempt has been made to overcome pronation; for, were there actual involvement of bone structure, sooner or later changes from the abnormal to the normal would become manifest under Wolff's law. X-ray examination of former pathogenic bone tissue would disclose that the correction of faulty function having been accomplished, restoration to normal bone structure would inevitably ensue and leave no traces behind. Lacking proof, any other assumption would be pure guesswork.

It should be stated that what applies to pronation, likewise applies to other manifestations of fancied acquired defects, such as rotation of the calcaneum toward the medial side when viewed on its longitudinal plane; including also abduction of the forefoot at Chopart's joint, accompanied by a tilting heel or by pronation, usually identified as *talipes valgus*.

X-Ray Evidence of Wolff's Law

Adaptive alterations in function give strong evidence of order and economy and are manifested by either hypertrophy or atrophy in bone structure, always governed according to the degree to which various bones are involved in functional stresses. Examples in the animal kingdom are numerous: the powerful hind limbs of the kangeroo, the single-toed foot of the horse, the prehensibility of the feet of the primate, and terrestrial modifications in the feet of ground gorillas and apes.

X-ray findings, indicating abnormal and adaptive functional changes in the bony structure of the human foot, coming within classification of Wolff's law, include the following examples, which are by no means exhaustive. X-rays may be taken with the foot held in various positions and angles for sharp definition of the part viewed. In a minority of cases the X-ray will reveal a congenital shortening of one centimeter of metatarsal I in comparison to metatarsal II. While the shortening is not of any pathomechanical significance in itself, metatarsal segment I (in combination with cuneiform I) becomes involved only in the presence of complications, namely, osteoarthritis, when of traumatic origin, affecting any of the metatarsophalangeal joints, provided it is accompanied by subjective symptoms. A thinning of the cortex of metatarsal I may be found, with atrophic changes in advanced cases. The sesamoids of metatarsal I may be displaced posteriorly to the neck of the bone, at times going into adduction. This displacement has the effect of materially reducing the leverage action of metatarsal I. A lateral view sometimes reveals a relative dorsiflexion of the shaft of metatarsal I. Frequently, this bone is in varus, in which case the relaxed condition of metatarsal segment I evidenced an unusual degree of separation between cuneiforms I and II. The separation may appear as a line of lesser density continued back from the first intermetatarsal space. There may be hypertrophy and enlargement of the shaft of metatarsal II, with thickening of the cortical wall, which is evidence of increased functional stress.

The shafts of metatarsals III and IV may show similar changes to a less degree.

Any evidences of hypertrophy or atrophy of bone structure in the foot, brought about by pathomechanical conditions and classified under Wolff's law, are to be held as proof of abnormal or adaptive functional changes. Since all degrees of pronation are hereditary, no such abnormal changes in bone structure are found in X-ray negatives of pronated feet.

Foot Balance

Morton devotes an entire chapter in his book to foot balance. We have already briefly touched upon his presentation of the two aspects of foot balance, i.e., (a) structural stability and (b) postural stability. We now come to some consideration of the mechanical implications in the phrase "foot balance."

The talus (ankle bone) occupies a unique position in the foot structure as a whole. In both dorsiflexion and plantar flexion of the foot, the talus moves with the foot as a unit. In these two motions the talus can very properly be regarded as belonging to the foot, both physiologically and morphologically. But in the lateral movements of the foot, supination and pronation (or inversion and eversion), the talus no longer functions as a bone of the foot but now assumes the function of a bone of the leg. The lateral movements of the foot are performed in the subtaler region, while the talus is gripped immobile between the lower tips of the tibia and fibula, thereby giving the foot, minus the talus, an independent range of lateral motion. Hence, the talus may be regarded as a bone of the leg in terms of foot balance under weight-bearing, and as a bone of the foot when flexing or extending the foot under any conditions requiring such movements.

This leads us to highly important points in regard to the physiological and mechanical principles involved in foot balance. Foot posture is determined by considering the weight-bearing foot as the fixture, superimposed by the center of weight in the leg above it, together with the varying alignments of foot and leg.

This view is directly opposite orthodox opinion that foot balance is primarily a muscular phenomenon. That is, the leg is regarded as the fixture, and faulty foot posture results from muscular imbalance or weakness. The leg muscles are capable of overcoming faulty foot posture by voluntary contraction, which is proof enough of their ample strength. But such muscular contraction cannot be maintained for more than a short time without undue tiring. The powerful leg muscles are capable of compensating for short periods for a loss in foot balance.

Muscle Balance

Morton discusses muscle balance along unorthodox lines. He states, on the basis of experiments performed by him, that equality in antagonistic muscle groups does not exist. Such equality is purely relative. This inequality in opposing muscle groups may be observed in the powerful calf muscles as contrasted with the comparatively weak tibial muscles. Thus, muscle balance may be defined as the interplay of normal ratios of opposing muscle strengths, not necessarily in actual equality. This theory is proven in cases of paralysis where the opposing ratios are disturbed, leading to deformity of the part.

Therefore, pronation is not the result of failure or weakness in the supinators, for these and the opposing calf muscles have no relation to structural and postural stability in the foot. In a test made by Morton, of about 60 student nurses at an institution, a range of foot posture from normal to second degree pronation did not disclose any inconsistency in comparative strengths of the opposing leg muscles. There were differences in the individual strength of the muscles, and among those with normal foot posture greater strength of the pronators over the supinators was observed than among those with faulty foot posture. Even the feet with second degree pronation were constant in equaling or surpassing the strength of the supinators.

The conclusion to be drawn from these tests is that muscle balance, in its relation to postural stability of the foot, permits a wide range in normal variation of the leg muscles. Structural stability gives to the foot a wide margin of postural security to offset any imbalance in the leg muscles. This consideration provides just as wide a latitude for *normal variations in foot posture, notably the different degrees of pronation.*

The writers have laid the groundwork with this article in preparation for what is to follow. The findings of various authors and investigators were incorporated with the original work and material here presented for the first time in conjunction with the gradual development and unfoldment of an advanced concept in orthopedics. Additional material bearing on these lines of research will be presented to the profession from time to time in the pages of THE JOURNAL.

Reference

The Human Foot, Dudley J. Morton, M.D., Columbia Univ. Press, 1935

NOVEL METHOD OF PUNCTURING NAIL PLATE

By ENSIGN VINCENT DE PAUL DALLAS
U. S. Naval Reserve

IN THE COURSE of everyday podiatry practice, the practitioner is often called upon to perform a most painful operation, namely the puncturing of a nail plate. Following severe injury to the toe, usually the result of the falling of some heavy object upon the digit involved, subungual hemorrhage and the accompanying inflammation are the most painful factors involved. In the twenty-four hour period following the injury, the entire subungual surface may become discolored. It is now that the podiatrist is called upon to relieve the condition.

In the past, one of two methods to establish drainage was almost universally employed. The first and perhaps the most popular method, was the use of a sharp, pin-point scalpel. The point of the scalpel was placed directly over the area, and the instrument twirled between the thumb and forefinger until drainage was established. The main disadvantage of using this method was that the resulting cone-shaped opening, with the apex pointing downward, did not offer much drainage. In order to make the opening larger, it was necessary to force the scalpel deep into the subungual tissues. The resulting pain was most uncomfortable.

The other procedure involved the use of the hand drill and a fine burr. In employing this method, the utmost caution must be taken by the operator. When the burr has penetrated the thickness of the nail plate, the subungual tissues may be violently torn, and greater damage done as a result thereof than that caused by the original injury. Here, while the end result is attained, the pain involved and the apprehension of the patient stamp this technique as wantonly lacking in surgical perfection, not to mention the questionable sterility of the procedure.

At his present station, in the course of treating 5,000 to 7,000 patients per month, the author has been called upon to treat many cases involving injury to the dorsum of the great toe followed by subungual hemorrhage. Recently a novel means of establishing drainage by puncturing the nail plate was perfected which proved most effective and painless.

Having ruled out the presence of a fracture, the entire toe is sterilized by the usual procedures. One end of a common paper-clip is straightened out and heated over a Bunsen burner or alcohol lamp to white heat. The heated end of the wire piece is then applied directly over the site of the hemorrhage. Immediately upon complete penetration of the nail plate, the major portion of the confined blood and fluid is released. In only a few of the cases thus far treated by this technique, was the re-heating of the wire necessary, due to the thickness of the nail plate. In two cases, due to the extent of the area involved, it was necessary to puncture the nail in two places, one opening acting as a vent and the other as a drain.

When drainage ceases following slight digital pressure, the toe is bandaged and cold boric acid soaks applied. In twenty-four to forty-eight hours, all symptoms subside.

Conclusions

The new technique herein described is preferred over the older methods for the following reasons:

(1) the speed with which the desired result is effected;
(2) a minimum of pain is involved;
(3) there is little apprehension on the part of the patient;
(4) the sterility of the operation cannot be approached by any other means.

ATHLETE'S FOOT

Recent studies on the use of hypochlorite solutions for the prophylaxis of "athlete's foot" have thrown doubt on the effectiveness of this method of control. The consensus is that hypochlorite foot-bath solutions are not effective in the prevention of spread of dermatophytosis. Their failure to prevent spread of fungous infections has been attributed to various factors inherent in chlorine solutions. Of chief importance among these factors are the variable rate of decrease in concentration and limitation of range of effective fungicidal concentrations. The former factor is more or less common to all foot-bath solutions; the latter is peculiar to chlorine solutions. Limitation of range of effective fungicidal concentration is due to the following features:

1. Hypochlorous acid, the active fungicide, is not formed in effective amounts above pH 8.

2. Strong solutions of calcium or sodium hypochlorite yielding 1,000 parts per million of free chlorine have a pH above 8 and are too alkaline to form effective amounts of the active fungicide. While the use of this concentration would be practicable as regards maintenance, it would be ineffective as a fungicide.

3. Although dilution of hypochlorite solution produces greater dissociation, a lower pH, and more of the active fungicide, an effectively low concentration yielding 100 parts per million of free chlorine would require replenishment hourly when used by as few as fifteen men. The use of this concentration is therefore impracticable.

It seems probable that any foot-bath solution would be ineffective for the following reasons:

1. Even if foot baths killed all the free spores, a certain proportion of spores are encased in the keratin of epidermal scales.

2. Any solution which would dissolve keratin rapidly enough to be effective in killing keratin-encased spores in a foot bath would also dissolve the horny layer of the sole and produce a severe dermatitis.

3. The spores which are keratin-encased are tracked onto floors adjacent to foot baths, subsequently become freed from the scales, sporulate and then serve as the main source of reinfection.

It is therefore suggested that emphasis be placed on the following mechanical methods of prophylaxis:

1. Flushing of shower room and barracks floors with water under pressure.

2. Scrubbing of floors with brush and detergents.

3. Exposure of flooring or duckboards, when practicable, to direct unfiltered sunlight after application of the methods described in 1 and 2 above.

It is believed that more progress will be made in the reduction of athlete's foot by these means than by the use of foot baths.

From the Sanitation and Hygiene Division, Preventive Medicine Service of the Surgeon General's Office

KEEPING THE WORKER ON HIS FEET

By FRANCES SMITH
Murray Manufacturing Corporation
Brooklyn, N. Y.

It is generally recognized that foot complaints are responsible for considerable worker fatigue and perhaps, in some cases, for absenteeism and turnover. The question has been, however, whether or not it is feasible for management to tackle the problem. The author of this article describes a foot-care program instituted by one plant, giving data on the amount of care found necessary and the cost of employing a part-time podiatrist. She also outlines the measures which were taken to insure acceptance of the plan by the workers.

OVER A YEAR AGO, a podiatrist suggested that we introduce foot care for industrial workers. Since the majority of our jobs require standing or walking or both, it seemed to be a good idea; but as we had little in the way of precedents to guide us, we started the program in a tentative, experimental fashion.

Walking through the plant and observing footgear worn, by women workers particularly, made it clear to the most uninitiated that workers could not stand eight or nine hours daily in sandals, sneakers or bedroom slippers without becoming exhausted. And the fatigue factor certainly has something to do with absenteeism and turnover, although it is difficult to establish a correlation.* Moreover, the lack of adequate foot protection accounted for a high incidence of foot injuries. For these reasons we decided that the objectives of the program would be: (1) foot health, and (2) foot safety (supplementing the work of the safety committee).

*According to an article on "Foot Disorders and Absenteeism Based on a Survey in War Production Areas" in the September, 1943, issue of the *Journal of the National Association of Chiropodists*, of 78,000 war workers surveyed:

"A—7,940 workers were afflicted with foot disorders which caused the loss of from two to seven days per month.

"B—12,311 suffered from foot disorders which were responsible for at least one day per month.

"C—16,660 had foot disabilities which decreased their industrial efficiency although they reported no time lost from their work.

"D—41,089 reported no time lost from their work.

"Of the 78,000 workers surveyed, 20,251 lost an average of three days per month or approximately 160,000 man-hours per month."

There is no guarantee, of course, that these figures, which were obtained from personnel departments and podiatrists in war plants, are any more significant than other absentee breakdown figures; they represent the reasons for absence given by the workers, not nesessarily the valid reasons.

Inaugurating the Program

The "foot doctor" brought his own equipment, and was established in a first aid room. Then 20 women, "lead horses" who could sell the idea to other employees, were asked to submit to examination on company time.

Fifteen of these workers were found to need immediate foot attention. When questioned, all admitted that they had been aware of foot discomfort, and had intended to do something about it, but that they had "never got around to it." Since they declared also that they had experienced relief after treatment and would like to see the podiatrist regularly, arrangements were made for them to go to his office (which was not hard to reach from the plant) and obtain follow-up treatment on their own time at the company's expense. But the response was negligible—the workers maintained that they reached home too late when they went after leaving work. It was decided, therefore, to discard this method.

Next, notices inviting employees to see the podiatrist in the plant on company time for a nominal fee were posted throughout the plant. But again response was poor. It seemed clear that although workers might realize they needed foot care, they were unwilling either to make a trip to get it or to pay a fee if the service was offered on the premises.

Workers Were Embarrassed

After a year of vain attempts to launch the program successfully, workers were invited to see the podiatrist at no charge, in the plant and on company time. At this the demand for appointments slowly increased, but workers still needed prodding. It developed that many of them never had had podiatric treatment and "were afraid of what he's

going to do." Some felt that foot discomfort was part of the job and that nothing could be done about it. By and large, too, the majority admitted after discussion, they were embarrassed—embarrassed to tell a foreman why they wanted time off the job, afraid that they would be objects of derision on the part of fellow workers. They were all too conscious that painful feet are not an especially dramatic or heart-wringing ailment. It was arranged, therefore, to have appointments made through the medical office, so that no explanations to the foremen would be necessary.

The Final Plan

The mechanics as finally developed, are as follows:

1. After two or three weeks of employment, all new workers are given an appointment for examination in order to determine foot needs and any follow-up care required. The medical department has the names of new workers and consults the foremen once a week to determine who can be spared on particular days. A record card is made out at the time of examination and filed in the medical department.
2. A worker who wishes to see the foot doctor goes to the medical department, leaves his name, and is notified of the appointment time. Each week the medical department arranges the schedule of treatments with the foreman.
3. Workers who wish safety shoes are advised to see the foot doctor before buying so that they may get shoes most fitted for their needs.
4. The supervisor of orientation and job progress for the women workers notifies them of the service offered by the company and urges them to purchase safety shoes.
5. Once a month, record cards are analyzed by the doctor, and workers who should return for follow-up treatment are notified by the medical department. Whether the worker returns or not is optional with him; if he does not return after a second follow-up notice, no further action is taken.

The podiatrist now sees an average of 10 patients daily, four mornings a week. He also returns to the plant one evening weekly, when he sees 15 to 20 patients. Examinations take about five minutes; treatments, 10 to 20 minutes.

Everything possible has been done to streamline the process. A clerical assistant from the plant works with the podiatrist, taking down notes on the individual's record chart during the course of examination and/or treatment. She prepares pads, medicines and instruments so that the worker may be treated as quickly as possible and, in addition, directs the traffic flow in such a way that not more than one worker is waiting at a time. To date, there have been no complaints by foremen that time is wasted in this service.

The number of workers seen varies between 50 and 60 weekly. The idea of going to the podiatrist has gained gradual acceptance, not only among the formerly reluctant workers, but also among foremen who in the past resented giving workers time off for "this new nonsense the personnel office has dreamed up."

Proportionately, there is a greater demand for foot care among the night-shift workers. This probably for two reasons:

1. The average age of this group is higher than that of the day workers.

2. Night workers, especially women, are generally in a more complaining mood than day workers, and feel their time is more limited. (Actually, they have more opportunity to avail themselves of community services than day workers do.) The podiatrist reports they want "the works," special pads, medicinal care, etc. The foot vibrator is especially popular.

During treatment, the podiatrist discusses the type of shoe which might give more comfort and ensure toe-protection, and various models of men's and women's shoes are on display in the medical department. Workers are steered to the Personnel Office for shoe stamps and a list of stores where the best type of shoe can be purchased. But we have deliberately kept out of the shoe business on the advice of the podiatrist, for two reasons: We want workers to feel they have a wider choice of shoes than could be offered by the company; and we hope to fix the responsibility of supplying well-constructed and properly fitted shoes on the shoe retailers.

In general, foot complaints found among our workers can be classified as follows:

Women's Foot Complaints

Orthopedic foot disabilities: Metatarsal arch pain, due not only to poor footgear currently worn, but also to faulty shoes worn before employment in the plant, has led to poor posture, backaches, and in some cases chronic fatigue. Heel pain, known as "policeman's heel," which is due to constant pounding on hard floors, is also found.

Men's Complaints

Common foot disorders: These include corn and callous complaints, fungus infections, etc. Male workers have fewer and a greater scattering of complaints than women,* and the majority of those they do have fall into the *common foot disorders* category and are mainly due to wearing old dress shoes on the job.

The fact that workers can obtain stamps for safety shoes only through the personnel office has been a great aid in seeing that proper shoes are purchased. Several shops will insert pads or arch supports according to the doctor's written instructions, and this has been helpful in doing a long-range therapeutic job for the individual worker.

At present, two out of the 10 workers seen daily have follow-up work done frequently, possibly twice a week for several weeks, to clear up infection or intense pain. Corn and callous cases are seen approximately once a month.

*"Among 1,000 cases seen in a foot clinic, there were 15 times as many females as males." *Labor Information Bulletin,* July, 1943.

CALL FOR MANUSCRIPTS

MEMBERS ARE REQUESTED to submit manuscripts for publication in future issues of the Journal. Some suggested subjects which will be of interest are: case histories, shoe therapy, professional economics, office arrangement, orthopedics, anesthesia, children's foot ailments, industrial foot care, dermatology, helomata, neurovascular disturbances, diseases of the nails, hydrotherapy, public education and articles dealing with Chiropody.

Figures on Foot Care

The following are figures based on a preliminary report covering the period, July, 1943 - December, 1943:

750 Treatments given
350 Individuals examined and treated
17 Cases in which no treatment was necessary
187 Cases which needed monthly treatment
72 Cases which needed treatment every two months
24 Cases which needed treatment every three months
50 Emergency cases—blisters, dermatological complaints, etc.

Forty individuals showed improvement and were scheduled to report at longer intervals than at first; that is, some workers once scheduled to return every month are now seen every two or three months.

Emphasis throughout the program has been on preventive care. Where it is apparent, for example, that a corn and callous case will become painful in two or three months, the worker is recalled just before the time the trouble is expected to develop. If no need is found for treatment, the next appointment will be made for after a longer interval. The fact that more and more workers need to see the podiatrist less frequently as time goes on is one indication of the success of the program.

Cost

The company pays one dollar per patient for treatment, no fee for examination. The only initial expense was for a podiatrist's chair and stool. Overhead items include the cost of materials, which is nominal, the services of the clerical assistant 10 hours weekly, the time given by the nurse making up and arranging weekly schedules, and the time off the job by the worker. There are disadvantages to this system of paying the podiatrist, inasmuch as he feels reluctant to call in workers for follow-up treatment too often—although it was probably the best for the early stages of the program, when management had no way of forecasting how extensive the program would have to be. Now, however, we are considering a plan to assign the podiatrist to the regular medical staff and pay him on a yearly basis for approximately 14 hours of service weekly.

In summing up, how can the value of such a program be measured? That the need for a foot-comfort program existed in our plant is evidenced by the employee acceptance of the plan and by analysis of the records of foot needs and improvement shown. If a podiatrist gives concentrated service at regular intervals, he should in a short time have few acute cases which need attention. The program must, however, be *planned* and *continuous,* and it must have the full support of management if foot discomfort is to be materially alleviated.

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KEEP AMERICA MARCHING

THE

JOURNAL

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PODIATRISTS

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL
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WASHINGTON, 10, D. C.

Address all communications intended for publication, matter relating to advertising, business or subscriptions to the Editor.

1945 AND VICTORY

WITH THE NEW YEAR well on its way chiropodists-podiatrists like practically everyone else are trying to peer into the future in order to help determine what 1945 may hold in store for us. According to the various reports released by several agencies of the Federal Government we should anticipate a number of new difficulties. War conditions have accentuated problems which confronted us to a lesser degree in 1943 and 1944. We can foresee restrictions, shortages and inconveniences on a greater scale in 1945 than at any time since we entered the war.

It is up to us to meet the challenges presented and remove wherever possible those obstacles which might impede the progress of our profession. Let us face the tribulations which 1945 may bring with resolution and vigor, and cooperate in every way to aid our Nation and its Allies to ultimate Victory. May we work together in harmony for the advancement of Chiropody and the ideals and aspirations of the National Association of Chiropodists during 1945 and thereafter.

IMPORTANT NOTICE

WE ARE compiling a list of all practitioners who are serving on the staffs of public and private institutions (hospitals, clinics, homes for aged, industrial concerns, etc.) Please send the following information to the Executive Secretary as soon as possible.

1 — Your name and address.
2 — Name of institution.
3 — How long have you been affiliated with the institution?
4 — How much time do you spend in the institution?
5 — Briefly describe your duties.

ANNUAL COMMITTEE REPORTS

SCIENTIFIC

Dr. J. Applebaum, Chairman

We have read and approved for publication in The Journal more than a dozen manuscripts during the past year. In our efforts to provide material of interest which could be utilized by the Scientific or Program Committees of the State Societies, your chairman with the aid of the Executive Secretary has provided copies of a series of articles on the feet, which were written by members of the medical profession. It is suggested that these articles provide the basis for a number of "discussion programs" among the state and division groups. A letter explaining our purpose in this matter has been sent to each affiliated organization. Due to wartime conditions we are again unable to arrange a scientific program in conjunction with the annual meeting of the National Association.

INSURANCE

Dr. I. Baumgaertner, Chairman

I have reported the activities of this committee through the medium of The Journal from time to time as occasion found need for such reports; therefore, I am not at this time going to offer a lengthy review of our work during the year. I wish to convey my greetings to all who attended the sessions in Chicago this year.

LEGISLATIVE

Dr. Jos. Kastead, Chairman

Since our national legislative program was our primary consideration during the past year, this committee offered all possible cooperation to the Defense Committee. On several occasions we authorized publication of matters relating to state legislation in our national Journal. We call your attention to the report of Dr. Walker who served as chairman of our Post War Planning Committee on Legislation. This report was published in The Journal and it contains many valuable suggestions which should be considered by future national and state legislative committees.

State legislative matters this year were few compared to most previous years. We trust that this situation will not continue to prevail in the immediate future. Our objective to bring about standardization of many phases of our respective state practice acts must be reiterated and followed by subsequent action if Chiropody is to continue its progress toward professional maturity.

COMMERCIAL RELATIONS

Dr. Burgess Kelly, Chairman

During the past year our committee has cooperated with the Executive Secretary on several important projects which were designed to benefit the profession. Chiropody for many years ignored or overlooked the value of mutual cooperation with firms which manufacture and distribute pharmaceutical products, footwear, equipment, supplies, instruments and other items generally used by the practitioner. Our efforts have been directed toward correcting such oversight. By contacting various firms whose products are either used by chiropodists or are

ethically advertised to the public we have been able frequently to offer them constructive suggestions which have resulted in improved products or better advertising. It is a pleasure to note the appreciation of many concerns which have availed themselves of the services we are able to offer. We must not forget that those commercial organizations desire our whole-hearted support and encouragement.

The results of this form of reciprocal assistance have been gratifying, as witnessed by the additional number of advertisers in THE JOURNAL of the N. A. C., in research grants from the Mennen Co. and Bristol Myers Co., in various promotional projects by several firms engaged in the manufacture of pharmaceuticals and shoes, and in countless other evidences of cooperation which no doubt are mentioned in the reports of officers and other committee chairmen.

In concluding this report I wish to extend my thanks to Dr. Stickel and all the other officers and members who helped make our work successful in 1943-44.

EDITOR'S

Dr. Howard L. Chapman, Chairman

In addition to THE JOURNAL of the National Association of Chiropodists, there are twelve chiropody publications in the United States. Of these, eight are state organs, one zone and one city. Two are privately financed. During the past year, assistance was rendered to one state organization in the establishment of an official publication. This was the California CAL-PODIST, newest addition in the chiropody publication field. Following the recommendations of a previous committee, most publications are of a standard size. Mimeographed papers vary in their size and make-up.

More news items of a strictly local nature have been published during the past year. This is encouraging from the standpoint of bringing about better relations among the practitioners and helping them to keep in touch with their associates in the profession.

It has been recommended that all publications be sent to the men of our profession now in service, to help them keep in touch with the affairs of chiropody, and to let them know what we on the home front are doing to further the war effort, and to bring about their return to a bigger and better profession. There were no expenditures of Association funds for this committee during the past fiscal year.

PHARMACEUTICAL

Dr. Harry L. Hoffman, Chairman

During 1943-44 we made considerable effort to interest leading pharmaceutical firms in chiropody. Contact has been maintained with the American Pharmaceutical Association of which your chairman is a member. One of our important objectives has been to constantly be on the lookout for information in the pharmaceutical and chemical fields which might be of interest to chiropodists. We answered numerous inquiries from practitioners concerning various drugs, chemicals, preparations, etc.

There is no reason for alarm at the present time in the matter of pharmaceutical supplies, but certain items are becoming increasingly scarce and we can anticipate further curtailment of a few drugs and other types of supplies.

MUSEUM

Dr. George W. Nelson, Chairman

This is the first official report submitted to the National Officers and House of Delegates describing the activities of the National Chiropody-Podiatry Museum, since its establishment in 1942.

Financial: There has been no money asked for and no money received.

Exhibits: There are fifteen (15) which are housed in the Director's office in Minneapolis. Names of contributors have been and will be announced in the N. A. C. JOURNAL from time to time.

The Director respectfully urges the House of Delegates at its next session to discuss the possibility of a city and place to be selected as a permanent home for this material. Chicago, Denver and Des Moines have possibilities and advantages because of their central location.

(From Annual Reports N. A. C., May 31, 1944)

IMPORTANT NOTICE TO ALL MEMBERS

TEN DOLLAR PER CAPITA ASSESSMENT 1944-45

Members Are Urged to Remit Promptly to State Secretaries

IN ACCORDANCE with a resolution adopted by the Twenty-fifth House of Delegates a Ten Dollar Per Capita Assessment has been levied on the membership of the National Association of Chiropodists for special purposes defined by the Defense Committee at the meeting in Chicago last August.

In the event that the funds collected in this assessment are *not* used as has been outlined by the Defense Committee each member will receive credit for 1945-1946 dues (which are due June 1, 1945) and which will be ten dollars. In other words the present assessment will become an "advance" in regular dues if the Defense Committee does not require the funds. The money is needed *immediately*, so please send in your check to your State Secretary without delay. The assessments should be forwarded promptly to the Executive Secretary. TWENTY THOUSAND DOLLARS ($20,000.00) MUST BE AVAILABLE IF OUR DEFENSE COMMITTEE PROGRAM IS SUCCESSFUL.

Wm. J. Stickel, Executive Secretary
John D. Walker, President
L. A. Walsh, Chairman, Defense Committee

STATE BOARD FEDERATION SOLICITS MEMBERSHIP

THE FEDERATION of Chiropody-Podiatry Boards, U. S. A., is in its infancy when compared by years with older chiropody organizations. However, its committees are performing functions that are beyond the jurisdiction of any other older chiropody organization and by this fact are fast becoming recognized as vitally important in their services to the public and profession. The Federation's operations are being more completely and better understood by all Chiropodists who are entrusted with the administration of the profession's affairs for the benefits of the public. This organization's structure, policies and activities are sound and are endorsed by all professional people familiar with its objective.

The National Association of Chiropodists went on record at its annual meeting in Louisville, Kentucky, through its House of Delegates, of actively supporting the endeavors of this Federation in every manner practical.

The Association of American Chiropody Colleges in endeavoring to promote and maintain reasonably high and uniform educational standards are directly contributing to this Federation's sole objective: "To develop and maintain a reasonably high and uniform standard of chiropody-podiatry licensure in the United States."

The various State Boards of Chiropody-Podiatry Examiners throughout the United States have been increasing their cooperation and support of this Federation not only by their Active Memberships, but also through a larger representation of delegates at our annual meetings. Non-member boards have contributed in increasing numbers important information and assistance through their experienced and highly competent personnel.

The Chiropody-Podiatry Associations in every State in the Union are respectfully requested to urge their members to effectively and directly concur in the same action carried out by the National Association of Chiropodists at Louisville, Kentucky. In the States where boards may not be affiliated with this Federation, the State Boards of Chiropody Examiners should be urged to avail themselves of the Federation benefits which will reflect directly in the profession of each affiliated state.

The Federation

The Federation of Chiropody-Podiatry Boards of U. S. A. is united by a covenant or common agreement of the various State Boards of Chiropody-Podiatry Examiners of the United States, forming a sovereign power so that each of the uniting boards or powers retains their own local or state powers.

Active Memberships

A state board of Chiropody-Podiatry Examiners to be eligible for Active Membership in this Federation must be operating under a chiropody-podiatry law, which, in the opinion of the Federation's Executive Committee, gives such board full authority to enforce or uphold the minimum standards of this Federation.

Standards

The minimum standards required of State Boards of Chiropody-Podiatry Examiners to uphold under their respective state laws, or requirements for Active Membership in this Federation are:

(a) Preliminary Education—Completion of at least twelve (12) units, or its equivalent of sixty (60) counts. of work in and graduation from a

recognized four year high school, or an equivalent credential.

(b) Chiropody Education—Completion of at least two (2) years or training in and graduation from some school of chiropody-podiatry conferring the "Doctor of Surgical Chiropody" degree, or its equivalent, and having qualified instructors, adequate laboratory equipment, ample clinical facilities to equal the minimum requirements of the Federation.

(c) Licensure Examinations—These must be by such methods to thoroughly cover such subjects in a manner to test the candidate's fitness in a comprehensive examination and be of sufficient duration in each subject.

Finances: Active Membership dues or fees for affiliated boards are payable in advance on or before August first of each year, and the scale is based upon the number of chiropodists practicing in a State, as follows:

200 or more in a State, Annual Active Membership fee is $25.00.
100 to 200 in a State, Annual Active Membership fee is $20.00.
75 to 100 in a State, Annual Active Membership fee is $15.00.
74 or less in a State, Annual Active Membership fee is $10.00.

For information and application write to Dr. Marshall Harvey, Secretary, 1109 Avenue K, Lubbock, Texas.

Dr. C. H. Robinson
Editor of Federation Bulletin
826 Fair Bldg.
Fort Worth 2, Texas

SEND A STUDENT TO CHIROPODY-PODIATRY COLLEGE

MATERIAL FOR PUBLICATION

Please send all material for publication to Dr. William J. Stickel, Editor, 3500 14th Street, N. W., Washington, D. C.

Scientific articles, organization announcements, committee reports and state society news should be sent to the above address. Manuscripts should be typewritten on one side of page only and preferably double-spaced.

OCTOBER 1944 COPIES OF JOURNAL WANTED FOR PRACTITIONERS IN ARMED FORCES

Due to an unexpected demand for copies of the October, 1944, Journal, we were short approximately 50 copies for chiropodists serving in the Armed Forces. Please return your copy to the Editor if you do not keep a permanent file of the Journal. Thank you.

SECOND REPORT ON PHENOL AND CAMPHOR

EUGENE C. RICE, M.D.

In my original report on "A Specific for Athlete's Foot," I mentioned several cases of various types that responded favorably to phenol and camphor medication. Two of those cases had received treatment for more than a year, given by dermatologists who have had years of experience.

More than a year has passed since my first report. Drs. Penney, Reher and I have continued to use and prescribe it with unfailing results. I have learned that others have not had good results, hence these observations. The cause of failure may be due to writing the prescription improperly, or the skin not being powder dry when the medication was applied. In either case a dermatitis usually develops.

A patient that had received treatment elsewhere told of her experience with phenol and camphor, describing how her foot became inflamed and swollen. Questioning her, I learned that she was more than careful about having the skin dry. After using the towel, she let an electric fan blow on the foot. In her case I am certain from the results observed that the phenol had not been properly prescribed. Phenol itself is not enough, it must be *phenol c. p. crystals.*

I have even used this medication on skin that was moist and macerated with good results, but the skin was thoroughly dried before applying it.

For the vesicular type of epidermophytosis use bismuth violet, or gentian violet. When vesicles have disappeared use phenol and camphor. For the keratotic type, eliminate the hard, thick tissue with salycilic acid ointment, then use phenol and camphor, applying it twice daily and continue treatment several weeks after all symptoms have been eliminated. I write the prescription as follows:

Rx:—

Phenol, c. p. crystals
Camphor aa 30.0
M. Sig: Apply twice daily.
The skin must be powder dry when applied.

Always remember to give directions for disinfecting foot wear.

1333 F St.

"HEALTHY MORALE IS THE HEART OF INDUSTRY"

DR. JOSEPH LELYVELD
Rockland, Massachusetts

The above is the title of an article on industrial health by J. H. Hess, M.D., Medical Director of Jack & Heintz, Inc., of Cleveland, Ohio. He also refers to "shoes and foot comfort," and states "no truer words have ever been spoken than these: 'When my feet hurt I feel sick all over.' We have proved that good foot care is very excellent health insurance."

"Lifeless legs, backache, pain on the soles of the feet, muscle cramp, bunions and corns are all the result of wearing poorly fitted shoes for long periods of time. Such conditions are corrected by properly fitted, scientifically built shoes which the company furnishes to associates. Records compiled from a foot survey determine how often and who should have replacements."

The above is only one of many similar discussions by industrial physicians pointing out the need for foot care in industry.

An article on "A Doctor's Viewpoint of Women at Work" by Charles Francis Long, M.D., Medical Director and Chairman of the

Committee on Industrial Health for the Medical Society of Pennsylvania, states that shoe accidents can be eliminated. He says, "Turn to the curious devices that some women walk in. No orthopedist or anyone else in his right mind would prescribe them as working shoes for factory use. Our safety campaign really got a start when one of our employees, coming down stairs, lost both the heels from her shoes and sat down so violently that her coccyx was broken. Those shoes were paraded on a truck through the plant, together with a pair of proper work shoes, and from that time to this day low heel oxfords with straps or laces over the instep are the only working shoes for women allowed in the plant—and we haven't had a shoe accident since that rule was made.

"Thinking further of the decorative desires of women as related to safety, another important safety factor that should be given careful consideration is obesity, a disease more common to women than to men."

We who specialize in the care and treatment of feet observe a direct relationship between obesity and foot defects and can readily understand why either one or both is an industrial hazard.
321 Union Street

BORIC ACID MAY BE TOXIC IN BURN TREATMENT

CAUTION IN THE use of boric acid ointment or saturated solution for burns was advised by Lt. Carl C. Pfeiffer, Lt. I. Gersch and Ensign Lois F. Hallman of the Naval Reserve, who reported at the American Medical Association meeting that enough boric acid to produce poisoning can be absorbed from a 10% ointment. Under favorable conditions, 75% of the boric acid may be absorbed when a 5% solution is used for irrigating purposes. The boron accumulates in the brain, liver and body fat, and definite pathologic changes are seen in the central nervous system and kidneys. Death may result from a shock-like syndrome after large doses, and general inanition after medium doses. Since the antiseptic properties of boric acid are weak, oher less potentially harmful agents should be employed.

TREATMENT OF TRICHOPHYTOSIS WITH ETHYL CHLORIDE

LEWIS AND MORGINSON describe the exclusive use of ethyl chloride spray on 40 unselected consecutive patients with trichophytosis of the interdigital spaces, soles, palms or crural regions, usually involving the toes and soles but occasionally also the hands and groins. Ethyl chloride produces immediate burning and stinging, particularly as the area defrosts. There was no case in which treatment was discontinued because of this discomfort. Increased experience showed that proper technic of application is important. If liquid ethyl chloride runs onto the normal skin, particularly on the dorsa of the feet at the base of the toes, there results a dermatitis congelationis. These lesions were uncomfortable but healed uneventfully within three or four days. This complication from treatment is prevented by having the patient hold paper towels on the normal skin around the infected areas when the ethyl chloride is applied. The authors conclude that ethyl chloride spray, producing distinct frosting of the skin, may be used without harmful effects in the treatment of trichophytosis.

It may be applied to all varieties of lesions, including those showing secondary bacterial involvement. Immediate clinical improvement, with subsidence of vesicles and pustules, healing of denuded areas, increased dryness of the skin and regression of hyperhidrosis, follows the applications of ethyl chloride. Ethyl chloride does not produce a cure or eradication of trichophytosis. Recurrences are experienced in practically all instances within ten days. Ethyl chloride may be used to advantage as an adjunct to the customary management of trichophytosis, particularly in the vesicular stage. It apparently promotes dryness of the skin, producing an antagonistic environment for the fungi.

Arch. Derm. and Syph. Oct. 1944 P. 243. J. H. Lewis—W. J. Morginson.

FROST INJURIES IN WARFARE

LIEBESNY DIFFERENTIATES seven types of frost injuries: (1) erythema and edema, (2) blisters and bullae, (3) superficial gangrene, (4) gangrene of skin and subcutaneous tissue, (5) gangrene of a whole part of an extremity or other parts of the body, especially the ears, (6) injury to muscles, tendons, periost, bone and nerves without or with accompanying lesions of the skin, (7) chronic relapsing lesions of the skin; e. g., chilblains and other forms of erythrocyanosis. Application of heat in frostbite is inadvisable. This is true in first aid as well as in treatment. The defrosting of frozen parts must be done by means of wet dressings with water of 41 to 58 F. Rubbing or massaging of the frozen parts should be avoided. The therapeutic effect of refrigeration in frostbite may be explained partly by its antiphlogistic effect and partly by the fact that it permits only a gradual increase in the temperature of the frozen parts up to normal body temperature, so that there is sufficient time for the improvement of circulation. To achieve improvement in the circulation, short wave therapy of low intensity has been found effective by the author and by Italian clinicians. The short wave current is applied with air spaced electrodes. The treatments are given daily for ten minutes. The current is applied in such a manner that the increase of the temperature of the skin in the treated area does not exceed 0.5 degree C. after ten minutes of application. Recovery is usually accomplished with few treatments. Leriche and Kunulin recommended anesthetic infiltration of the lumbar and stellate sympathetic in patients suffering from frostbite with edema and pain. Nearly all patients were immediately relieved. The infiltrations were repeated on the following two days. If there was no necrosis or infarction, patients were well in a few days. Transfusion of plasma in patients suffering from frostbite of large areas and of high degrees are advisable. These transfusions should be given during the first twenty-four hours.

N. Y. State Jour. Med. Oct. 1944. P. 2118 Physiopathology. Treatment and Prevention of Frost Injuries, with Special Reference to Frost Injuries in Warfare. P. Liebesny.

ARE YOUR N.A.C. DUES PAID?

PATRONIZE OUR ADVERTISERS

STATE SOCIETY NEWS

NEW YORK DAY OF SCIENCE TO BE HELD Feb. 25, 1945

THIS IS AN invitation to the "Day of Science" at the Pennsylvania Hotel, New York City, Sunday, February 25th, 1945, at 10:00 A.M.

Its scope will inspire you. Latest developments in Chiropody-Podiatry will make you more proficient, skilful and experienced.

Further progress in Chiropody-Podiatry will come as the result of education. It is true that one person may learn from another and we gain knowledge by observation and study. "Don't fail to attend." We have secured the best scientific lecturers in Chiropody-Podiatry and Medicine. Your attendance will be our compensation for all the efforts we have expended in preparation for this outstanding event. There will be a registration fee of One Dollar to all members of the National Association of Chiropodists regardless of geographical location.

The following is a condensation of the program to be presented:

Dr. A. A. Weiss—Podiatry Progress
Dr. A. Gorfain — Manipulative Therapy
Dr. M. Werbel—Physical Therapy Problems
Dr. C. Gottlieb—X-rays of the Foot and Leg
Dr. B. Drummer—Padding for Metatarsalgia
Dr. R. Tassini—Injection Therapy
Dr. J. Wachtel—Skin Diseases
Dr. L. F. Schreiber—Podiatry Orthopedics
Dr. H. A. Budin—Orthodigita
Dr. M. D. Steinberg—Podiatric Diagnosis
Dr. H. W. Weinerman—Peripheral Vascular
Dr. J. J. Mayer—X-ray Techniques

Scientifically yours,
Jack Applebaum,
M.Cp. Chairman
Scientific Committee
Podiatry Society of New York

PENNSYLVANIA

Philadelphia Chiropody Society

THE REGULAR MEETING of the Philadelphia Chiropody Society was held on Dec. 12, 1944, at the Sylvania Hotel. Dr. Helfand introduced David W. Kramer, M.D., Professor of Medicine at Jefferson Medical College, who presented a demonstration and lecture on "Diagnosis and Recognition of Peripheral Vascular Diseases."

Plans were discussed for the Symposium held on Jan. 14, 1945. The Special Awards Committee of the U. S. O. Benedict Club presented a beautiful plaque to the Society on behalf of our efforts in providing professional services to men and women in the Armed Forces. Dr. I. D. Greenfield, N. A. C. Chairman of Foot Clinics Committee, accepted the plaque for the Society.

North Philadelphia Division

THE REGULAR MEETING of the North Philadelphia Division of the Chiropody Society of Pennsylvania was held on Dec. 12th at the Lorraine Hotel. Dr. Lester Walsh of Wilmington presented a lecture and demonstration on the "Billig Method of Fascia Stretching." Guests present included Dr. Claudia Kupchinsky of Minersville and Mrs. Isabelle Colleary Walsh, former secretary of the New Jersey Chiropody Society.

NEW JERSEY CONVENTION COMMITTEE ORGANIZES

AN ORGANIZATION meeting of the 1945 Convention Committee of the Chiropodists' Society of New Jersey was held on Friday evening, December 1, 1944, at the office of Dr. George J. Deyo of Elizabeth, N. J.

A definite site and dates were selected scheduling a three-day conclave to be held at the Hotel Chelsea, Atlantic City, N. J., on Friday, Saturday and Sunday, April 27, 28 and 29, 1945.

The entire first day of the convention will be devoted to a program of X-ray lectures and demonstration sponsored by the American Society of Chiropodical Roentgenology in collaboration with the New Jersey State Society.

The following committee chairmen were appointed:

General Chairman—Dr. Geo. Deyo, Elizabeth

Secretary and Door Prizes — Dr. Nathan Glidear, Roselle

Treasurer and Exhibits—Dr. Louis Perlman, West New York

Program and Good Fellowship—Dr. N. L. Frankel, New Brunswick

Scientific Program — Dr. Jack V. Behar, Newark

Registration — Dr. Joseph Funston, Jersey City

Publicity and Entertainment — Dr. Joseph F. Brown, Newark

New England Representative — Dr. Irving Yale, President, American Society of Chiropodical Roentgenology, Ansonia, Conn.

Ex-Officio — Dr. Avner Robinson, President, Chiropodists' Society of N. J., Trenton

ILLINOIS ASSOCIATION TO HOLD ANNUAL CONVENTION

THE ILLINOIS ASSOCIATION of Chiropodists will hold its Annual Convention in Chicago on Saturday, Sunday and Monday, March 17-19, 1945. The business sessions will be held on Saturday and lectures, clinics and demonstrations will be presented on Sunday and Monday. The official banquet is scheduled for Sunday evening. The program is being prepared and will be announced soon. Anyone desiring information may obtain it by writing to Dr. George C. Custer, 4737 Broadway, Chicago, Ill.

MASSACHUSETTS

A REGULAR MEETING of the Massachusetts Chiropody Association was held on Dec. 12, 1944, at the Hotel Statler in Boston. The increase in our membership has made it necessary for the Association to use larger meeting rooms. Twenty-six new applications were presented to be acted on at the January meeting.

The scientific feature for the evening was a lecture by Dr. Kenneth Kazanjian, eminent Boston dermatologist who spoke on "Skin Diseases in the Practice of Chiropody." A discussion period followed the lecture.

The Academy of Podiatry of Massachusetts sponsored a scientific symposium at the Hotel Kenmore on Dec. 3, 1944. The following program was presented.

Opening Address—Dr. A. L. McGrady.

Demonstration of Air Cooled Drill—Dr. V. H. Carpenter.

Foot Orthopedics and Posture Pads—Dr. L. F. Schreiber.

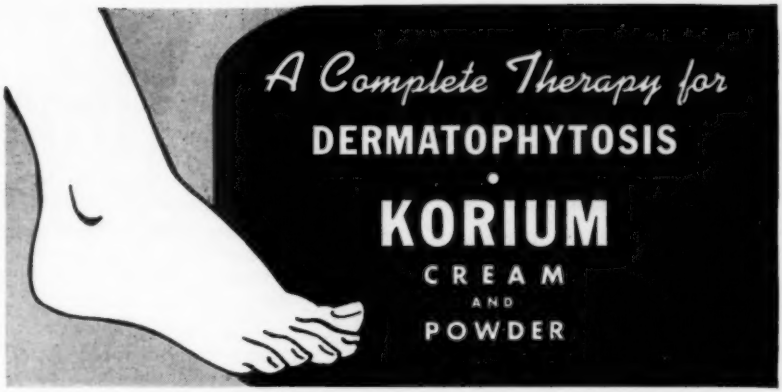
X-rays in Chiropody—Dr. V. A. Jablon.

Manipulative Therapy—Dr. K. F. Schreiber.

Differential Diagnosis—Dr. M. D. Steinberg.

Injection Technique — Motion Picture.

Banquet Speaker — Dr. John D. Walker, President of the N. A. C.



FOR FUNGICIDAL EFFICIENCY a combination of salicylic and benzoic acids surpasses all other active agents that are employed in the treatment of dermatophytosis, but, if compounded with a greasy ointment base, their action is retarded, often irritating, and patients dislike the messy unguent.

The salicylic (5%) and benzoic (3%) acid crystals contained in KORIUM CREAM exert a safer, more rapid and thorough fungicidal action because they are finely powdered, evenly dispersed and stabilized in a greaseless, water soluble, vanishing-type base which, compounded with methyl parahydroxybenzoate (0.5%) and other activating ingredients, promotes their penetration and diffusion into the deeper epidermal layers. Benzocaine (1%) and menthol (0.25%) provide helpful antipruritic and analgesic effects.

As a result, KORIUM CREAM destroys the offending fungi with maximum efficiency, patients' comfort and cooperation are assured, infection-spreading scratching is controlled and irritation rarely complicates its use.

THE PROBLEM OF REINFECTION

KORIUM POWDER, an effective fungicide, antiseptic, absorbent and deodorant, contains 3% salicylic acid, 5% zinc oxide, 90% boric acid, chlorothymol, oxyquinoline sulfate, methyl parahydroxybenzoate and oil of white thyme. It may be employed wherever a powder is indicated in the treatment of fungus infections, as a drying agent or to prevent chafing. Optimum results follow its use in combination with KORIUM CREAM. To guard against reinfection patients should be advised to continue use of KORIUM POWDER in shoes, stockings, between the toes and on the feet or other parts subject to infection.

AVAILABLE AT PHARMACIES

*KORIUM CREAM
1 oz., 4 oz., and 1 lb. jars.

KORIUM POWDER
3 oz. sifter cartons.

*Reg. Trade Mark *

WRITE FOR GENEROUS CLINICAL PACKAGE

If you wish to include the name and address of your prescription pharmacist, we will gladly detail him also.

SARNAY PRODUCTS INC. 40 RECTOR STREET NEW YORK 6, N. Y.

ILLINOIS

DR. G. E. GREENE, Secretary of the Illinois Association of Chiropodists, wishes to call the attention of members to his correct address. All communications should be directed to Dr. G. E. Greene, 209 South State St., Chicago, 4, Ill.

WASHINGTON

Eastern Division

A MEETING of the Eastern Division of the Washington State Chiropody Association was held at the Spokane Hotel on Nov. 15, 1944. Dr. Mabel Burns was appointed program chairman for the December meeting. Dr. C. C. Savage discussed "Inflammations of the Skin of the Feet" which was followed by a quiz period. On Nov. 19, 1944, a special meeting was held to hear the report of our delegate to the N. A. C. meeting. Dr. C. L. Utterback of Yakima rendered the report. Several members from Idaho and Oregon attended this meeting. Dr. O. M. Garvin of Boise and Ensign T. W. Cockrell, stationed at Farragut Naval Training Station, addressed the group. The report by Dr. Utterback was greatly appreciated by the membership.

Western Division

THE REGULAR MEETING of the Western Division of the Washington Association was held on Nov. 1, 1944. An excellent attendance turned out to greet Chief Phar. Mate Rees Prichard, formerly of Seattle, who described foot care in the Navy. Dr. and Mrs. Peck of Olympia were present and two chiropodists serving in the Army were guests of the group. They were Drs. A. R. Sodey and T. G. Bochanis. Dr. Raymond Hartford was requested to write to various N. A. C. officials regarding the sound slide film "Foot Follies of 1944."

MINNESOTA

THE REGULAR MEETING of the Minnesota Association of Chiropodists was held on Dec. 14, 1944, at the Lowry Hotel in St. Paul.

The Legislative Committee, Drs. Baumgaertner and Bracken, reported that we have an excellent law in Minnesota and that no changes are anticipated in the immediate future. Members subscribed 100% to the Sixth War Loan.

Dr. Leibold demonstrated new techniques in manipulations. The following members serving in the Armed Forces visited relatives and friends recently: Max Broude, H. Philip Winger, Mark Armagost and Philip Legler.

DEATH REPORTED

Dr. John Mosig

DR. JOHN MOSIG, pioneer chiropodist of Paterson, N. J., passed away on Dec. 6, 1944, while treating a patient in his office. Dr. Mosig was well known in the profession and his many friends will keenly mourn his loss. He held many offices and committee chairmanships during the years of service he rendered to the Chiropody profession. He was given an honorary degree by the Ohio College of Chiropody in 1937. Dr. Mosig is survived by his widow, Mrs. Mary Mosig, three sons, Lt. J. J. Mosig, U. S. Army, Lt. Wm. Mosig, U. S. Navy, Dr. Henry Mosig of New York City and a daughter, Dr. Ethel McClure.

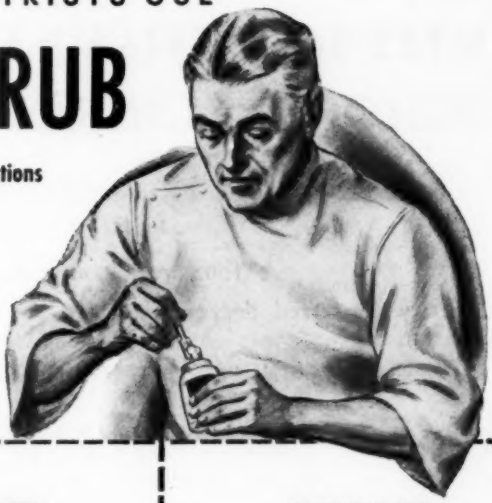
SEND DUES TODAY

Have you neglected to forward your dues to your State Secretary? Please write out your check and mail it today.

HOW PODIATRISTS USE

MINIT-RUB

How many of these applications are you familiar with?



BEFORE TREATMENT

1. Massaged into the foot, MINIT-RUB relaxes taut muscles . . . quickly makes the patient more comfortable and ready for treatment.

TO RELIEVE PAIN

2. By reflex action, MINIT-RUB's soothing ingredients act below the skin surface . . . speed gratifying relief from simple nerve and muscular discomforts.

AS A "FINISHING TOUCH"

3. Massaged into the feet after treatment, MINIT-RUB stimulates local blood and lymph circulation, brings a feeling of warmth and comfort.

TO SUPPLEMENT TREATMENT

4. To ease "between-visit" pain, many podiatrists recommend home-massage with MINIT-RUB.

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A four year course leading to the University conferred degree;

Doctor of Surgical Chiropody

CHARLES E. KRAUSZ, D.S.C., DEAN
1810 Spring Garden St.
Philadelphia 30, Pa.

"A Modern Institution"

NEW BANDAGE PASSES TESTS

AFTER SIX MONTHS of experimental tests, the surgical department of the New Orleans Naval Hospital reports that a new bandage, devised in the Department of Agriculture's Southern Regional Research Laboratory, is superior to regular gauze, particularly for orthopedic use. Partial mercerization of open-weave cotton gauze improves the fit of the bandage and allows greater freedom of bandage joints. The new-type fabric has sufficient elasticity to make it flexible and somewhat self-tightening, and also has a roughened surface which makes layers of bandage tend to cling together.

ARMY MEDICAL DEPARTMENT PERSONNEL

THE FOLLOWING statistics have been given out in connection with the announcement that the Army has stopped recruiting physicians: The Department has grown from 8,010 at the beginning of World War I until it now numbers 680,891. Of this number approximately 44,651 are in the Medical Corps, 14,948 in the Dental Corps, 2,012 in the Veterinary Corps, 2,364 in the Sanitary Corps, 15,078 in the Medical Administrative Corps, 59 in the Pharmacy Corps, 40,305 in the Army Nurse Corps, and there are 559,327 enlisted men, 813 Physical Therapy Aides, and 1,334 Hospital Dietitians.

CALIFORNIA COLLEGE OF CHIROPODY

offering
Advanced Training in
CHIROPODY

Special Emphasis in
The Fields of Diagnosis and Foot Surgery

One year college required for entrance. Three years intensive resident study leading to degree of D. S. C.

A limited number of Dr. Gottlieb's manuscript "Diagnostic Foot Surgery" are still available at five dollars per copy.

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By

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AMERICAN SOCIETY OF FOOT SURGEONS, INC.

THE FOUNDING of The American Society of Foot Surgeons, Inc., was the outgrowth of an idea conceived by several chiropodists in the San Francisco Bay Area in March, 1944. These men had as their goal the founding and building up of an organization devoted to the practice of foot surgery.

The group held regular meetings once each month in San Francisco to discuss organization and to outline the regulations under which such a society be formed. Members of this group were Drs. A. Hoffman, Leo N. Liss, Francis H. Sheetz, John Gebhardt, Glenn Anderson, C. K. Krasnow, all of San Francisco, California, and Robert L. Rutherford of Berkeley, Calif.

On July 5, 1944, a meeting of this group was held in San Francisco, California. An election was held with the following officers being named:

President, A. Toffman, D.S.C., San Francisco, Cal.; Vice-President, Dale W. Austin, D.S.C., Hollywood, Cal.; Secretary-Treasurer, Robert L. Rutherford, D.S.C., Berkeley, Cal.

During the subsequent meetings which followed, articles of incorporation were drawn up after which a charter was issued by the State of California. By this time the original charter membership had increased to nineteen chiropodists and physicians practicing in California and Nevada.

Chapters have been established in San Francisco and Los Angeles. Copies of the constitution and by-laws of the A. S. F. S., application blanks and case history report forms may be obtained from Dr. R. L. Rutherford, Secretary, 209 Medical Dental Bldg., Berkeley 4, Cal.

AMERICAN SOCIETY OF CHIROPODICAL ROENTGENOLOGY

THE A. S. C. R. held a regular meeting at the Hotel Astor, New York City, on Dec. 13, 1944. New officers assumed their duties for the coming year.

President, Dr. I. Yale, Conn.
First V. P., Dr. F. O. Gamble, N. J.
Second V. P., Dr. R. Sansome, Conn.
Secretary, Dr. M. Polokoff, N. J.
Treasurer, Dr. H. B. Levine, N. J.
Custodian, Dr. O. Scheimer, N. J.

Dr. Marvin Steinberg lectured on the subject "Roentgen Manifestations in Clinical Diagnosis." It was reported to the membership that the Chiropodists Society of New Jersey will sponsor a resolution at the next meeting of the National Association of Chiropodists to obtain full recognition for the A. S. C. R.

New applications were received from the following: M. Keller, Providence, R. I.; I. W. Kaufman, Montreal, Canada; E. Zatz, Harvey, Ill.; C. Freeman Greensburg, Pa.; R. Fowler, Detroit, Mich.; S. Rudnick, Westhaven, Conn. Applicants should note the requirement concerning the use of name plate or identification markers. This is required on all films submitted. It was also announced that radiographs on weightbearing was not compulsory under A. S. C. R. rules.

New applicants should write to Dr. M. M. Polokoff, 8 West Broadway, Paterson 1, N. J., and remit the five dollar application fee. Twenty-five case report forms will be sent to the applicant along with the preliminary application blank.

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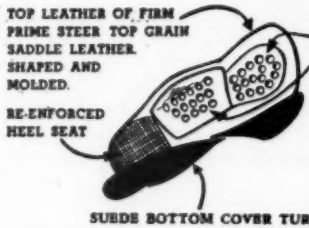
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CLINICAL NOTES

A. B. PASTERNACK, D.S.C.
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Contrast Foot Baths

Some of the older men in practice will well remember that 20 to 30 years ago this form of hydrotherapy was frequently employed by drugless doctors. It then fell into disuse until two articles appeared in one of the prominent medical journals a few years ago.

One reported that this bathing caused a circulatory stimulation which effectually combated foot pain from strained and exhausted muscles, trauma of the tissues and inflammation, as well as various forms of nerve and vasomotor disturbances.

Two buckets were used, holding enough water to reach 6 inches above the ankles. The patient plunged both feet into the bucket of hot water for 1½ minutes, then into the cold for ½ minute and repeated this 5 times. He then dried the feet by brisk rubbing and rested for 30 minutes. The foot bath was used once a day, preferably as soon as possible after work.

The other article endorsed a similar method in circulatory disturbances and arthritis. It was suggested that the patient sit on the side of the bath tub and spray the feet and legs with a sprinkler such as is used for rinsing the hair after shampooing. The hot spray was used for 1 minute, then cold for 1 minute, repeating 5 times.

Wound Healing

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Pigmentation

Phenophthalein (constituent of many laxatives) may produce pigmentation areas which may last for months even after the drug has been withdrawn. They may vary in size from a split pea to that of a palm, round or oval, purplish to dark red plaques which are edematous.

Iodine or *bromide* may be responsible for a single granulomatous lesion on the anterior surface of the leg. They are raised, irregular and painful.

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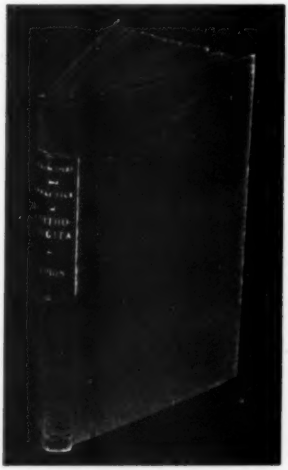

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MASSACHUSETTS FEET FIRST AND LAST 4-H HEALTH SLOGAN

GOOD CARE of the feet is receiving special attention by twenty thousand 4-H Club members in Massachusetts this year. Miss Tena Bishop, assistant state 4-H leader, Massachusetts State College, says that each year emphasis is placed on some phase of health, and the program is set up for the State. This year the health slogan is "Feet First and Last."

Meetings will be held throughout the year to teach the members how to select shoes and stockings to fit, good care of the feet, and how to stand and walk for health. Clubs will call on outside speakers to present talks, or members and leaders will give demonstrations and carry on discussions on the subject. A circular entitled "Feet First and Last" is being issued, and Dr. Joseph Lelyveld, Chairman of the Public Relations Committee of the Massachusetts Chiropody Association, and Director of the National Foot Health Council, is assisting the 4-H program in Massachusetts and throughout the country. The circulars are available to every boy and girl enrolled in the 4-H project.

As a part of their physical fitness activities the Junior Victory Army, members affiliated with the 4-H clubs, will pay special attention to the care of their feet.

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